

APPENDIX B: PROPOSED RULES

Parts 2, 80, and 87 of title 47 of the Code of Federal Regulations are proposed to be amended as follows:

Part 2 of title 47 of the Code of Federal Regulations is proposed to be amended as follows

**PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;
GENERAL RULES AND REGULATIONS**

- 1 The authority citation for Part 2 continues to read as follows.

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

- a. Revise page 66

- b. In the list of United States (US) footnotes, remove footnote US292.

§ 2.106 Table of Frequency Allocations.

The revisions and additions read as follows.

* * * * *

14-14 25 FIXED-SATELLITE (Earth-to-space) 5 484A 5 506 5 457A 5 506B 5 457B RADIONAVIGATION 5 504 Mobile-satellite (Earth-to-space) 5 504C 5 506A Space research			14-14 2 Space research	14-14 2 FIXED-SATELLITE (Earth-to-space) Mobile-satellite (Earth-to-space) Space research	Satellite Communications (25)
5 504A 5 505 14 25-14 3 FIXED-SATELLITE (Earth-to-space) 5 484A 5 506 5 457A 5 457B 5 506B RADIONAVIGATION 5 504 Mobile-satellite (Earth-to-space) 5 506A 5 508A Space research 5 504A 5 505 5 508 5 509			14 2-14 4	14 2-14 4 FIXED-SATELLITE (Earth-to-space) Mobile-satellite (Earth-to-space) Mobile except aeronautical Mobile	Satellite Communications (25) Fixed Microwave (101)
14 3-14 4 FIXED FIXED-SATELLITE (Earth-to-space) 5 484A 5 506 5 506B 5 457A 5 457B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5 506A 5 509A Radionavigation-satellite 5 504A	14 3-14 4 FIXED-SATELLITE (Earth-to-space) 5 484A 5 506 5 457A 5 506B Mobile-satellite (Earth-to-space) 5 506A Radionavigation-satellite 5 504A	14 3-14 4 FIXED FIXED-SATELLITE (Earth-to-space) 5 484A 5 506 5 457A 5 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5 506A 5 509A Radionavigation-satellite 5 504A			
14 4-14 47 FIXED FIXED-SATELLITE (Earth-to-space) 5 457A 5 457B 5 484A 5 506 5 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5 506A 5 509A Space research (space-to-Earth) 5 504A			14 4-14 47 Fixed Mobile	14 4-14 47 FIXED-SATELLITE (Earth-to-space) Mobile-satellite (Earth-to-space)	Satellite Communications (25)
14 47-14 5 FIXED FIXED-SATELLITE (Earth-to-space) 5 457A 5 457B 5 484A 5 506 5 506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5 504B 5 506A 5 509A Radio astronomy 5 149 5 504A			14 47-14 5 Fixed Mobile	14 47-14 5 FIXED-SATELLITE (Earth-to-space) Mobile-satellite (Earth-to-space)	
			US203 US342	US203 US342	

Part 80 of title 47 of the Code of Federal Regulations is proposed to be amended as follows

PART 80 -- STATIONS IN THE MARITIME SERVICES

1 The authority citation for Part 80 continues to read as follows:

AUTHORITY: Secs 4, 303, 307(e), 309, and 332, 48 Stat 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e), 309, and 332, unless otherwise noted Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C 151-155, 301-609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

2 Section 80.375 is amended by removing paragraph (d)(2)(vi), redesignating paragraph (d)(2)(vii) as paragraph (d)(2)(vi), and revising paragraph (d)(1) to read as follows:

§ 80.375 Radiodetermination frequencies.

* * * * *

(d) Radiodetermination frequency bands above 2400 MHz (1) The radiodetermination frequency bands assignable to ship and shore stations including ship and shore radar and transponder stations are as follows: 2450-2483.5 MHz, 2900-3100 MHz, 5460-5650 MHz, and 9300-9500 MHz.

Part 87 of title 47 of the Code of Federal Regulations is proposed to be amended as follows

PART 87—AVIATION SERVICES

- 1 The authority citation for Part 87 continues to read as follows:

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e) unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-156, 301-609.

- 2 Section 87.107 is amended by removing paragraph (a)(2), redesignating paragraph (a)(3) as (a)(2), and revising paragraph (a)(2) to read as follows

§ 87.107 Station identification.

(a) * * *

(3) The type of aircraft followed by the characters of the registration marking ("N" number) of the aircraft, omitting the prefix letter "N " When communication is initiated by a ground station, an aircraft station may use the type of aircraft followed by the last three characters of the registration marking. Notwithstanding any other provision of this section, an aircraft being moved by maintenance personnel from one location in an airport to another location in that airport may be identified by a station identification consisting of the name of the company owning or operating the aircraft, followed by the word "Maintenance" and additional alphanumeric characters of the licensee's choosing.

* * * * *

- 3 Section 87.137 is amended by revising the table in paragraph (a) to read as follows:

§ 87.137 Types of emission.

(a) * * *

Class of emission	Emission designator	Authorized bandwidth (kilohertz)		
		Below 50 MHz	Above 50 MHz	Frequency deviation
* * *	* * *	* * *	* * *	* * *
F1B ¹	2K40F1B	2.5		
F1D ¹⁸	1M70F1D		1800 kHz	312.5 kHz
F2D	5M0F2D		(9)	
* * *	* * *	* * *	* * *	* * *

* * * * *

¹ A1A, F1B, J2A and J2B are permitted provided they do not cause harmful interference to H2B, J3E, J7B and J9W.

* * * * *

⁹ To be specified on license

* * * * *

¹⁸ Authorized only for Universal Access Transceiver use at 978 MHz

* * * * *

- 4 Section 87.139 is amended by adding paragraph (l) to read as follows:

§ 87.139 Emission limitations.

* * * * *

(l)(1) For Universal Access Transceiver transmitters, the average emissions measured in a 100 kHz bandwidth must be attenuated below the maximum emission level by at least:

Frequency (MHz)	Attenuation (dB)
+/- 0.5	0
+/- 1.0	18
+/- 2.25	50
+/- 3.25	60

The mask shall be defined by drawing straight lines through the above points on log semi-paper.

(2) Universal Access Transceiver transmitters with an output power of 5 Watts or more must limit their emissions by at least $43 + 1 - \log(P)$ dB on any frequency removed from the assigned frequency by more than 250% of the occupied bandwidth. Occupied bandwidth is defined as 99% of the signal power measured with a bandwidth of 100 kHz. P in the above equation is the average transmitter power measured in Watts.

(3) Universal Access Transceiver transmitters with less than 5 Watts of output power must limit their emissions by at least 40 dB relative to the carrier peak on any frequency removed from the assigned frequency by more than 250% of the occupied bandwidth. Occupied bandwidth is defined as 99% of the signal power measured with a bandwidth of 100 kHz.

- 5 Section 87.141 is amended by adding paragraph (k) to read as follows:

§ 87.141 Modulation requirements.

(a) * * *

(k) Universal Access Transceiver transmitters must use F1D modulation without phase discontinuities.

* * * * *

6. Section 87.173 is amended by revising the table paragraph (b) to read as follows:

§ 87.173 Frequencies.

* * * * *

(b) Frequency table

Frequency or frequency band	Subpart	Class of station	Remarks
90-110 kHz	Q	RL	LORAN "C".
190-285 kHz	Q	RLB	Radiobeacons
200-285 kHz	O	FAC	Air traffic control
325-405 kHz	O	FAC	Air traffic control
325-435 kHz	Q	RLB	Radiobeacons
410 0 kHz	F	MA	International direction-finding for use outside of United States
457 0 kHz	F	MA	Working frequency for aircraft on over-water flights.
500.0 kHz	F	MA	International calling and distress frequency for ships and aircraft on over-water flights.
510-535 kHz	Q	RLB	Radiobeacons
2182.0 kHz	F	MA	International distress and calling.
2371 0 kHz			[Reserved]
2374 0 kHz			[Reserved]
2648 0 kHz	I	AX	Alaska station
2850 0-3025 0 kHz	I	MA, FAE	International HF
2851.0 kHz	I, J	MA, FAE, FAT	International HF; Flight test
2866 0 kHz	I	MA, FAE	Domestic HF (Alaska).
2875 0 kHz	I	MA, FAE	Domestic HF.
2878.0 kHz	I	MA1, FAE	Domestic HF, International HF.
2911 0 kHz	I	MA, FAE	Domestic HF
2956 0 kHz	I	MA, FAE	Domestic HF
3004.0 kHz	I, J	MA, FAE, FAT	International HF; Flight test
3019 0 kHz	I	MA1, FAE	Domestic HF, International HF.
3023 0 kHz	F, M, O	MA1, FAR, FAC	Search and rescue communications.
3281.0 kHz	K	MA, FAS	Lighter-than-air craft and aeronautical stations serving lighter-than-air craft
3400.0-3500 0 kHz	I	MA, FAE	International HF
3434 0 kHz	I	MA1, FAE	Domestic HF
3443.0 kHz	J	MA, FAT	
3449 0 kHz	I	MA, FAE	Domestic HF
3470 0 kHz	I	MA, FAE	Domestic HF, International HF.
4125 0 kHz	F	MA	Distress and safety with ships and coast stations
4466.0 kHz			[Reserved]
4469 0 kHz			[Reserved]
4506 0 kHz			[Reserved]
4509 0 kHz			[Reserved]
4550 0 kHz	I	AX	Gulf of Mexico
4582 0 kHz			[Reserved]

4585 0 kHz			[Reserved]
4601 0 kHz			[Reserved]
4604 0 kHz			[Reserved]
4627 0 kHz			[Reserved]
4630 0 kHz			[Reserved]
4645 0 kHz	I	AX	Alaska.
4650 0-4700 0 kHz	I	MA, FAE	International HF
4672 0 kHz	I	MA1, FAE	Domestic HF.
4947 5 kHz	I	AX	Alaska.
5036 0 kHz	I	AX	Gulf of Mexico
5122 5 kHz	I	AX	Alaska.
5167 5 kHz	I	FA	Alaska emergency.
5310.0 kHz	I	AX	Alaska.
5451 0 kHz	J	MA, FAT	Flight test.
5463.0 kHz	I	MA1, FAE	Domestic HF.
5469 0 kHz	J	MA, FAT	Flight test.
5472 0 kHz	I	MA, FAE	Domestic HF.
5450 0-5680 0 kHz	I	MA, FAE	International HF.
5484 0 kHz	I	MA, FAE	Domestic HF.
5490 0 kHz	I	MA, FAE	Domestic HF
5496 0 kHz	I	MA, FAE	Domestic HF.
5508 0 kHz	I	MA1, FAE	Domestic HF.
5571 0 kHz	J	MA, FAT	Flight test.
5631 0 kHz	I	MA, FAE	Domestic HF.
5680.0 kHz	F, M, O	MA1, FAC, FAR	Search and rescue communications.
5887 5 kHz	I	AX	Alaska.
6525.0-6685 0 kHz	I	MA, FAE	International HF
6550 0 kHz	J	MA, FAT	Flight Test.
6580 0 kHz	I	MA, FAE	Domestic HF.
6604.0 kHz	I	MA, FAE	Domestic HF.
8015 0 kHz	I	AX	Alaska
8364 0 kHz	F	MA	Search and rescue communications
8815.0-8965 0 kHz	I	MA, FAE	International HF.
8822 0 kHz	J	MA, FAT	Flight Test.
8855.0 kHz	I	MA, FAE	Domestic HF; international HF.
8876 0 kHz	I	MA, FAE	Domestic HF.
10005.0-10100 0 kHz	I	MA, FAE	International HF
10045.0 kHz	J	MA, FAT	Flight Test.
10066.0 kHz	I	MA, FAE	Domestic HF, international HF.
11275 0-11400.0 kHz	J	MA, FAE	International HF
11288 0 kHz	J	MA, FAT	Flight Test.
11306 0 kHz	J	MA, FAT	Flight Test.
11357 0 kHz	I	MA, FAE	Domestic HF

11363.0 kHz	I	MA, FAE	Domestic HF.
13260.0-13360.0 kHz	I	MA, FAE	International HF.
13312.0 kHz	I, J	MA, FAE, FAT	International HF; Flight Test.
17900.0-17970.0 kHz	I	MA, FAE	International HF
17964.0 kHz	J	MA, FAT	Flight Test.
21924.0-22000.0 kHz	I	MA, FAE	International HF
21931.0 kHz	J	MA, FAT	Flight Test.
72 020-75 980 MHz	P	FA, AXO	Operational fixed, 20 kHz spacing
75 000 MHz	Q	RLA	Marker beacon.
108.000 MHz	Q	RLT	
108 000-117.950 MHz	Q	RLO	VHF omni-range.
108 000-117.975 MHz	Q	DGP	Differential GPS
108 050 MHz.	Q	RLT	
108 100-111 950 MHz	Q	RLL	ILS Localizer.
108 100 MHz	Q	RLT	
108 150 MHz	Q	RLT	
118.000-121 400 MHz	O	MA, FAC, FAW, GCO, RCO, RPC	25 kHz channel spacing
121.500 MHz	G, H, I, J, K, M, O	MA, FAU, FAE, FAT, FAS, FAC, FAM, FAP	Emergency and distress.
121.600-121 925 MHz	O, L, Q	MA, FAC, MOU, RLT, GCO, RCO, RPC	25 kHz channel spacing
121.950 MHz	K	FAS	
121 975 MHz	F	MA2, FAW, FAC, MOU	Air traffic control operations
122 000 MHz	F	MA, FAC, MOU	Air carrier and private aircraft enroute flight advisory service provided by FAA.
122 025 MHz	F	MA2, FAW, FAC, MOU	Air traffic control operations
122.050 MHz	F	MA, FAC, MOU	Air traffic control operations
122 075 MHz	F	MA2, FAW, FAC, MOU	Air traffic control operations.
122 100 MHz	F, O	MA, FAC, MOU	Air traffic control operations.
122 125-122 675 MHz	F	MA2, FAC, MOU	Air traffic control operations; 25 kHz spacing
122 700 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.725 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.750 MHz	F	MA2	Private fixed wing aircraft air-to-air communications.

122 775 MHz	K	MA, FAS	
122 800 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower, Aeronautical utility stations
122 825 MHz	I	MA, FAE	Domestic VHF
122 850 MHz	H, K	MA, FAM, FAS	
122 875 MHz	I	MA, FAE	Domestic VHF.
122 900 MHz	F, H, L, M	MA, FAR, FAM, MOU	
122.925 MHz	H	MA2, FAM	
122 950 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
122.975 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower, Aeronautical utility stations.
123 000 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower, Aeronautical utility stations.
123 025 MHz	F	MA2	Helicopter air-to-air communications, Air traffic control operations.
123 050 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations
123 075 MHz	G, L	MA, FAU, MOU	Unicom at airports with no control tower; Aeronautical utility stations.
123 100 MHz	M, O	MA, FAC, FAR	
123 125 MHz	J	MA, FAT	Itinerant
123 150 MHz	J	MA, FAT	Itinerant.
123 175 MHz	J	MA, FAT	Itinerant.
123 200 MHz	J	MA, FAT	
123.225 MHz	J	MA, FAT	
123 250 MHz	J	MA, FAT	
123.275 MHz	J	MA, FAT	
123 300 MHz	K	MA, FAS	
123 325 MHz	J	MA, FAT	
123.350 MHz	J	MA, FAT	
123 375 MHz	J	MA, FAT	
123 400 MHz	J	MA, FAT	Itinerant
123 425 MHz	J	MA, FAT	
123 450 MHz	J	MA, FAT	
123 475 MHz	J	MA, FAT	
123 500 MHz	K	MA, FAS	
123.525 MHz	J	MA, FAT	
123.550 MHz	J	MA, FAT	
123 575 MHz	J	MA, FAT	
123 6-128 8 MHz	O	MA, FAC, FAW, GCO, RCO, RPC	25 kHz channel spacing
128 825-132 000 MHz	I	MA, FAE	Domestic VHF; 25 kHz channel spacing.

132 025-135 975 MHz	O	MA, FAC, FAW, GCO, RCO, RPC	25 kHz channel spacing.
136 000-136 400 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations, 25 kHz channel spacing
136 425 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations
136 450 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations.
136 475 MHz	O, S	MA, FAC, FAW, GCO, RCO, RPC	Air traffic control operations.
136.500-136 875 MHz	I	MA, FAE	Domestic VHF; 25 kHz channel spacing
136.900 MHz	I	MA, FAE	International and domestic VHF.
136 925 MHz	I	MA, FAE	International and domestic VHF.
136 950 MHz	I	MA, FAE	International and domestic VHF.
136 975 MHz	I	MA, FAE	International and domestic VHF
156 300 MHz	F	MA	For communications with ship stations under specific conditions
156 375 MHz	F	MA	For communications with ship stations under specific conditions, Not authorized in New Orleans Vessel traffic service area
156 400 MHz	F	MA	For communications with ship stations under specific conditions
156.425 MHz	F	MA	For communications with ship stations under specific conditions.
156 450 MHz	F	MA	For communications with ship stations under specific conditions.
156 625 MHz	F	MA	For communications with ship stations under specific conditions.
156 800 MHz	F	MA	Distress, safety and calling frequency; For communications with ship stations under specific conditions.
156 900 MHz	F	MA	For communications with ship stations under specific conditions.
157 425 MHz	F	MA	For communications with commercial fishing vessels under specific conditions except in Great Lakes and St. Lawrence Seaway Areas.
243 000 MHz	F	MA	Emergency and distress frequency for use of survival craft and emergency locator transmitters
328.600-335 400 MHz	Q	RLG	ILS glide path.
334 550 MHz	Q	RLT	
334 700 MHz	Q	RLT	
406 025 MHz	F, G, H, I, J, K, M, O	MA, FAU, FAE, FAT, FAS, FAC,	Emergency and distress.

960-1215 MHz	F, Q	FAM, FAP MA, RL, RNV	Electronic aids to air navigation.
978 000 MHz	Q	RLT	
979 000 MHz	Q	RLT	
1030.000 MHz	Q	RLT	
1104 000 MHz	Q	RLT	
1300-1350 MHz	F, Q	MA, RLS	Surveillance radars and transponders
1435-1535 MHz	F, J	MA, FAT	Aeronautical telemetry and telecommand operations
1559-1610 MHz	Q	DGP	Differential GPS
1559-1626.5 MHz	F, Q	MA, RL	Aeronautical radionavigation.
1646.5-1660.5 MHz	F	TJ	Aeronautical Mobile-Satellite (R).
2310-2390 MHz	J	MA, FAT	Aeronautical telemetry and telecommand operations
2700-2900 MHz	Q	RLS, RLD	Airport surveillance and weather radar.
4200-4400 MHz	F	MA	Radio altimeters.
5000-5250 MHz	Q	MA, RLW	Microwave landing systems.
5031 000 MHz	Q	RLT	
5350-5470 MHz	F	MA	Airborne radars and associated airborne beacons.
8750-8850 MHz	F	MA	Airborne doppler radar.
9000-9200 MHz	Q	RLS, RLD	Land-based radar.
9300-9500 MHz	F, Q	MA	Airborne radars and associated airborne beacons.
13250-13400 MHz	F	MA	Airborne doppler radar.
15400-15700 MHz	Q	RL	Aeronautical radionavigation.
24750-25050 MHz	F, Q	MA, RL	Aeronautical radionavigation
32300-33400 MHz	F, Q	MA, RL	Aeronautical radionavigation

7 Section 87.187 is amended by revising paragraph x and adding paragraph (ff) to read as follows:

§ 87.187 Frequencies.

* * *

(x) The frequency bands 24250-24450 MHz, 24650-24750 MHz and 32300-33400 MHz are available for airborne radionavigation devices.

* * *

(ff) The frequency 978 MHz is authorized for Universal Access Transceiver data transmission.

* * * * *

8 Section 87.263 is amended by revising paragraphs (d) and (e) and adding paragraph (g) to read as follows:

§ 87.263 Frequencies.

(a) * * *

(d) International HF Service High frequencies for enroute stations serving international flight operations on the Major World Air Route Areas (MWARA's), as defined in the international Radio Regulations and the ICAO Assignment Plan, may be authorized in accordance with Appendix S27 to the Radio Regulations.

(e) Long distance operational control Long distance operational control frequencies provide communications between aeronautical enroute stations and aircraft stations anywhere in the world for control of the regularity and efficiency of flight and safety of aircraft. World-wide frequencies are not assigned by administrations for MWARA and Regional and Domestic Air Route Area (RDARA). Long distance operational control frequencies will may be authorized in accordance with Appendix S27 of the international Radio Regulations.

* * *

(g) The frequency 978 MHz is authorized for Universal Access Transceiver data transmission.

* * * * *

9 Section 87.345 is amended by adding paragraph (f) to read as follows:

§ 87.345 Scope of service.

* * *

(f) Transmissions by aeronautical utility mobile stations for Universal Access Transceiver service are authorized.

* * * * *

10 Section 87.349 is amended by adding paragraph (e) to read as follows

§ 87.349 Frequencies.

(a) * * *

(e) The frequency 978.0 MHz is authorized for Universal Access Transceiver data transmission

* * * * *

11 Section 87.375 is amended by adding paragraph (e) to read as follows:

§ 87.375 Frequencies.

(a) * * *

(e) The frequency 978.0 MHz is authorized for Universal Access Transceiver data transmission.

* * * * *

12 Section 87.417 is amended by adding paragraph (c) to read as follows.

§ 87.417 Scope of service.

(a) * * *

(c) The frequency 978.0 MHz is authorized for Universal Access Transceiver data transmission

* * * * *

13. Section 87.421 is amended by revising paragraph (c) to read as follows:

§ 87.421 Frequencies.

* * *

(c) Frequencies in the bands 118.000-121.400 MHz, 121.600-121.925 MHz, 123.600-128.800 MHz, and 132.025-135.975 MHz are available to control towers and RCOs for communications with ground vehicles and aircraft on the ground. The antenna heights shall be restricted to the minimum necessary to achieve the required coverage. Channel spacing is 25 kHz

* * * * *

21. Section 87.475 is amended by adding paragraph (b)(9) and revising paragraphs (c)(1) and (c)(2) to read as follows

§ 87.475 Frequencies.

(a) * * *

(b) * * *

(9) 978.0 MHz is authorized for Universal Access Transceiver service.

(c) Frequencies available for radionavigation land test stations (1) The frequencies set forth in § 87.187(c), (e) through (j), (r), (t), and (ff) and § 87.475(b) (6) through (10), and (12) may be assigned to radionavigation land test stations for the testing of aircraft transmitting equipment that normally operate on these frequencies and for the testing of land-based receiving equipment that operate with airborne radionavigation equipment.

(2) The frequencies available for assignment to radionavigation land test stations for the testing of airborne receiving equipment are 108.000 and 108.050 MHz for VHF omni-range, 108.100 and 108.150 MHz for localizer, 334.550 and 334.700 MHz for glide slope, 978 and 979 MHz (X channel)/1104 MHz (Y channel) for DME, 978 MHz for Universal Access Transceiver, 1030 MHz for air traffic control radar beacon transponders, and 5031.0 MHz for microwave landing systems. Additionally, the frequencies in paragraph (b) of this section may be assigned to radionavigation land test stations after coordination with the FAA. The following conditions apply:

(i) The maximum power authorized on the frequencies 108.150 and 334.550 MHz is 1 milliwatt. The maximum power authorized on all other frequencies is one watt.

(ii) The pulse repetition rate (PRR) of the 1030 MHz ATC radar beacon test set will be 235 pulses per second (pps) ± 5 pps.

(iii) The assignment of 108.000 MHz is subject to the condition that no interference will be caused to the reception of FM broadcasting stations and stations using the frequency are not protected against interference from FM broadcasting stations.

* * *

APPENDIX C

Parties Submitting Comments and Reply Comments in WT Docket No. 01-289

Comments

ARINC and Air Transport Association of America (ARINC/ATA)
Association of Federal Communications Consulting Engineers (AFCCE)
The Boeing Company (Boeing)
Federal Aviation Administration (FAA)
Hammett & Edison, Inc (Hammett & Edison)
Honeywell International, Inc (Honeywell)
Rockwell Collins, Inc (Rockwell Collins)
Société Internationale de Télécommunications Aéronautiques (SITA)
UPS Aviation Technologies, Inc (UPS)

Reply Comments

ARINC/ATA
Boeing
FAA
Globalstar L P (Globalstar)
Inmarsat Ltd. (Inmarsat)
Rockwell Collins
SITA

Ex parte presentations

Boeing
Rockwell Collins

APPENDIX D

INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act (RFA),³⁵⁴ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the *Further Notice of Proposed Rule Making* in WT Docket No. 01-289 (*Further Notice*). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Further Notice* as provided in paragraph 100 of the item, *supra*. The Commission will send a copy of the *Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.³⁵⁵ In addition, the *Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.³⁵⁶

A. Need for, and Objectives of, the Proposed Rules:

The proposed rules in the *Further Notice* are intended to further streamline, consolidate and clarify the Commission's Part 87 Rules; remove unnecessary or duplicative requirements; address new international requirements, and promote flexibility and efficiency in the use of aviation radio equipment in a manner that will further aviation safety. In the *Further Notice*, we request comment specifically on whether we should (1) accommodate use of Universal Access Transceiver technology on the frequency 978 MHz; (2) eliminate all requirements specific to data rates and modulation types to accommodate new technologies, such as Inmarsat's new 64 kbps service; (3) enable the use of non-geostationary satellite networks for AMS(R)S; (4) broaden the AMS(R)S regulations to take account of satellite systems other than Inmarsat's; (5) adopt additional technical requirements for AMS(R)S; (6) authorize use of the 1990-2025 MHz band for AMS(R)S; (7) identify new uses for the frequencies formerly reserved for the Civil Air Patrol; (8) remove the radionavigation allocation at 14000-14400 MHz; (9) streamline the listing of HF band frequencies in Part 87 frequency tables; (10) expand the availability of air traffic control spectrum for ground control communications; (11) codify the terms of a waiver that has permitted the certification of a back-up safety device designed to supplement conventional 121.5 MHz Emergency Locator Transmitters (ELTs); and (12) codify the terms of a waiver that authorizes a special station identification format to be used only by aircraft being operated by maintenance personnel from one location in an airport to another location in an airport.

B. Legal Basis:

Authority for issuance of this item is contained in Sections 4(i), 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 403.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply:

Under the RFA, small entities may include small organizations, small businesses, and small governmental jurisdictions, or entities.³⁵⁷ The RFA directs agencies to provide a description of and,

³⁵⁴ See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

³⁵⁵ See 5 U.S.C. § 603(a).

³⁵⁶ *Id.*

³⁵⁷ 5 U.S.C. § 601(6).

where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.³⁵⁸ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."³⁵⁹ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.³⁶⁰ A small business concern is one that (1) is independently owned and operated; (2) is not dominant in its field of operation, and (3) satisfies any additional criteria established by the SBA.³⁶¹ Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency after consultation with the Office of Advocacy of the SBA, and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

Small businesses in the aviation and marine radio services use a marine very high frequency (VHF) radio, any type of emergency position indicating radio beacon (EPIRB) and/or radar, a VHF aircraft radio, and/or any type of emergency locator transmitter (ELT). The Commission has not developed a definition of small entities specifically applicable to these small businesses. For purposes of this IRFA, therefore, the applicable definition of a small entity is that under SBA rules applicable to "Cellular and Other Wireless Telecommunications." This definition provides that a "small entity" for purposes of public coast station licensees, a subgroup of marine radio users, consists of all such firms having 1,500 or fewer employees.³⁶² According to Census bureau data for 1997, there were 977 firms, total, in the category of "Cellular and other Wireless Telecommunications," that operated for the entire year.³⁶³ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.³⁶⁴ Thus under this size standard, the majority of firms can be considered small.

The proposed amendments may also affect small businesses that manufacture aviation radio equipment. The Commission has not developed a definition of small entities applicable specifically to Radio Frequency Equipment Manufacturers (RF Manufacturers). Therefore, the applicable definition of a small entity is the definition under SBA rules for manufacturers of "Radio and Television Broadcasting and Wireless Communications Equipment." This NAICS category, however, is broad, and specific figures are not available as to how many of these establishments manufacture RF equipment for aviation use. Under the SBA's regulations, a radio and television broadcasting and wireless communications equipment manufacturer must have 750 or fewer employees in order to qualify as a small business concern.³⁶⁵ Census Bureau data indicates that there are 1,215 U.S. establishments that manufacture radio and television broadcasting and wireless communications equipment, and that 1,150 of these establishments have fewer than 500 employees and would be classified as small entities.³⁶⁶ The remaining 65

³⁵⁸ 5 U.S.C. § 603(b)(3).

³⁵⁹ *Id.*

³⁶⁰ 5 U.S.C. § 601(3).

³⁶¹ 5 U.S.C. § 632.

³⁶² 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct 2002).

³⁶³ U.S. Census Bureau, 1997 Economic Census, Subject Series Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 5, NAICS code 513322 (issued Oct 2000).

³⁶⁴ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees, the largest category provided is "Firms with 1,000 employees or more."

³⁶⁵ 13 C.F.R. § 121.201, NAICS code 334220.

³⁶⁶ Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series - Manufacturing, Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of

(continued .)

establishments have 500 or more employees, however, we are unable to determine how many of those have fewer than 750 employees and therefore, also qualify as small entities under the SBA definition. We therefore conclude that there are no more than 1,150 small manufacturers of radio and television broadcasting and wireless communications equipment

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements:

The *Further Notice* seeks comment on a number of possible rule changes that may affect reporting, recordkeeping and other compliance requirements. However, we believe that, with the exception of possible rule changes imposing additional technical requirements for certain aircraft earth stations, all of the possible rule changes discussed in the *Further Notice* are deregulatory in the sense that they do not impose new requirements on licensees or equipment manufacturers, but instead enhance the ability of licensees and manufacturers to provide and use new services and equipment on a permissive basis, and therefore will benefit small entities as well as the aviation community as a whole.

We invite comment on our tentative conclusion that the following possible rule changes will not have a negative impact on small entities, or for that matter any entities, because they would facilitate flexible use of the spectrum by licensees and/or design flexibility for manufacturers of avionics equipment, and do not impose new compliance costs on any entity: (1) accommodating use of Universal Access Transceiver technology on the frequency 978 MHz, (2) eliminating all requirements specific to data rates and modulation types, (3) enabling the use of non-geostationary satellite networks for AMS(R)S; (4) broadening the AMS(R)S regulations to take account of satellite systems other than Inmarsat's; (5) authorizing use of the 1990-2025 MHz band for AMS(R)S; (6) reallocating the frequencies formerly reserved for the Civil Air Patrol, (7) removing the radionavigation allocation at 14000-14400 MHz, (8) streamlining the listing of HF band frequencies in Part 87 frequency tables; (9) expanding the number of air traffic control frequencies available for ground control communications; (10) permitting certification of back-up safety devices designed to supplement conventional 121.5 MHz Emergency Locator Transmitters (ELTs), and (11) authorizing a special station identification format to be used by aircraft that are being operated by maintenance personnel from one location in an airport to another location in an airport. To the extent that commenters believe that any of the above possible rule changes would impose a new reporting, recordkeeping, or compliance burden on small entities, we ask that they describe the nature of that burden in some detail and, if possible, quantify the costs to small entities.

We tentatively conclude that any compliance burden stemming from new technical requirements for aircraft earth stations used in the provision of AMS(R)S will fall not on small entities but on large entities, such as mobile satellite system operators, airlines, and large manufacturers. We invite comment on this tentative conclusion. Commenters should identify with particularity those small entities that may be affected by these requirements, and, if possible, quantify the costs of any such requirements.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered:

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities, (2) the clarification, consolidation, or simplification of compliance or reporting

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small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information

requirements under the rule for small entities, (3) the use of performance, rather than design, standards, and (4) an exemption from coverage of the rule, or any part thereof, for small entities.

We hereby request comment on whether we can employ any of the above approaches to lessen compliance burdens on small entities if we adopt new technical requirements for aircraft earth stations. To the extent commenters believe that other of the discussed rule changes would also impose a compliance burden on small entities, we ask that they address whether any of the above approaches to reduce that burden is appropriate.

We hereby invite interested parties to address any or all of these regulatory alternatives and to suggest additional alternatives to minimize any significant economic impact on small entities. Any significant alternative presented in the comments will be considered.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules:

None